

D. Remarks

The claims are 1, 6, 7, 9 and 10, with claims 1 and 10 being independent. Claim 1 has been amended to correct a clear typographical error. No new matter has been added. Reconsideration of the present claims is expressly requested.

The application is objected to under 35 U.S.C. § 132, because the last-filed Amendment allegedly introduced new matter. Specifically, the Examiner has alleged that the originally filed disclosure does not specifically support the amendments on pages 15 and 36 regarding the change of "Compound No. 18" to "Reference Compound". Also, the Examiner objected to the phrase concerning chemical stability associated with the use of dibenzylidene sorbitol (DBS) derivatives on page 36.

While Applicants disagree with the Examiner, solely to expedite prosecution, the specification has been amended to change "Reference Compound" to "Compound No. 18". With respect to the phrase regarding stability on page 36 of the specification, it is respectfully submitted that this phrase is supported by the disclosure at page 4, lines 6-17.

Claim 10 stands rejected under 35 U.S.C. § 103(a) as being allegedly obvious from U.S. Patent No. 5,470,677 (Williams) in view of WO 98/11619 (Green). Claims 1, 6, 7, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious from U.S. Patent No. 5,008,339 (Anson) in view of Green. Claims 1, 6, 7, 9 and 10 stand rejected under 35 U.S.C. § 103(a) as being allegedly obvious from Williams in view of Pierre Terech et al., "Low Molecular Mass Gelators of Organic Liquids and the Properties of Their Gels," 97 Chem. Rev. 3133-3159 (1997) (Terech) and further in view of Green. The grounds of rejection are respectfully traversed.

Prior to addressing the merits of rejection, Applicants would like to briefly discuss some of the key features and advantages of the presently claimed invention. The gel electrolyte of the present invention comprises an ionically conductive material that is a liquid at working temperature, which is gelled by a self-assembling gelling agent with little or no organic solvent or stabilizer. The ionically conductive material is a molten salt and not a solution.

The Examiner has cited Terech, in part, for its an overview of organogelators. Terech teaches low molecular weight gelators of organic liquids, some of which are recited in claim 1. [However, Terech only teaches that these agents gel organic liquids such as alkanes and aromatic solvents. It does not disclose or suggest gelling any other materials, such as a molten salt.]

The Examiner will note that Terech explicitly states that “[i]t is not yet possible to select *a priori* a molecule to gel definitely a selected liquid” (p. 3137; III. Classes of Organogelators). In fact, Terech states that “there is no indication that the foreseeable future will bring the ability to predict whether a specific molecule will gel a selected liquid” (p. 3157; V. Epilogue). Therefore, clearly, it would not have been obvious to a person of ordinary skill in the art to replace organic liquids disclosed in Terech with any other liquids and reasonably expect these other liquids to gel.

Williams teaches using non-polymeric gelling agents that hold a liquid electrolyte. As acknowledged by the Examiner, the electrolyte is dissolved in a solvent and is not a molten salt as presently claimed. However, the Examiner has alleged that it would have been obvious to use a molten salt taught by Green instead of a solution in Williams. Applicants respectfully disagree.

Green discloses an electrolyte comprising a composite of a polymer and a molten salt, which is immobilized within the polymer. The polymers taught by Green are, for example, polyethylene oxide and a polyacrylonitrile, which are clearly different from the gelling agents of the present invention. The electrolyte in Green is prepared by mixing a polymer dissolved in an organic solvent and a molten salt, and the mixture is cast on a glass substrate to form a film by evaporating the solvent.

As discussed in detail above, Terech clearly teaches that it is not possible to reasonably predict whether a particular molecule will gel a selected liquid. According to Terech, "investigations concerning the processes involved in embryonic stages of gelator nucleation are woefully lacking and are desperately needed" (p. 3157). Therefore, the Examiner's allegation that it would have been obvious to substitute a molten salt taught by Green for a solution taught by Williams must fail.

As a matter of law, the prior art must provide a reasonable expectation that the proposed modification of Williams in view of the teachings of Green will succeed. To establish a prima facie case of obviousness, the Examiner is required to show that the prior art not only suggests doing what the inventor has done, but also that the art provides the required expectation of succeeding in that endeavor. See In re Dow. Chem., 5 U.S.P.Q.2d (BNA) 1529, 1531 (Fed. Cir. 1988). ("Both the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure").

The Examiner has not provided and Applicants have not found one iota of disclosure in the cited references that would suggest to a person skilled in the art that the molten salt disclosed in Green could gel with a gelling agent disclosed in Williams. To the contrary, in view of the teachings in Terech, the gelling success of such a combination can

only be determined by trial and error and cannot be reasonably predicted. Clearly, this is not a legally sufficient basis to combine Williams and Green as the Examiner has done. Accordingly, Williams and Green cannot affect the patentability of the presently claimed invention, especially in view of the disclosure in Terech.

The Examiner has alleged that Anson teaches a gelling agent similar to Compound 20, and that it would have been obvious to use such a gelling agent with a molten salt taught by Green. Applicants respectfully disagree.

First, Anson does not teach gelling agents similar to Compound 20, but instead teaches a ternary copolymer containing both hydrophobic styrene groups and hydrophilic quaternized amino styrene groups, which are used with a cationic homopolymer to produce a protective coating on electrodes. The structure of such a copolymer is completely different from that of Compound 20. Furthermore, the self-organizing ability of such a copolymer is related to self-organization into hydrophilic and hydrophobic domains and it not to gelling (col. 3, lines 60-65).

Second, even if assumed, *arguendo*, that Anson does teach a gelling agent comparable to that of the present invention, it would not have been obvious to combine such a gelling agent with the molten salt in Green in view of the disclosure in Terech, as discussed above. Specifically, Terech teaches that it is not possible to reasonably predict that a specific gelling agent will gel a selected liquid. Therefore, due to the lack of at least a reasonable expectation of success Anson and Green cannot affect the patentability of the present invention.

In conclusion, Applicants respectfully submit that none of the cited references, whether considered separately or in any combination, disclose or suggest the


combination of elements presently claimed. Specifically, these references do not disclose or suggest that the ionically conductive material, which is a liquid at working temperature, can be gelled by a gelling agent that is associated into a fibrous body via intermolecular bonding in the absence of an organic solvent.

Wherefore, it is respectfully requested that the claims be allowed and that the present case be passed to issue.

This Amendment After Final Rejection should be entered because it places the case in allowable form. Alternatively, it places the case in better form for possible appeal.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our below listed address.

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